

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.**

In the Matter of

**Joint Application of Northpoint Communications
and Verizon Communications for Authority to
Transfer Control of Blanket Authorization to
Provide Domestic Interstate Telecommunications
Services as a Non-Dominant Carrier**

Docket No. 00-157

REPLY DECLARATION OF DENNIS W. CARLTON AND HAL S. SIDER

October 17, 2000

I. QUALIFICATIONS

1. I, Dennis W. Carlton, am Professor of Economics at the Graduate School of Business of The University of Chicago. I received my AB in Applied Mathematics and Economics from Harvard University and my MS in Operations Research and Ph.D. in Economics from the Massachusetts Institute of Technology. I have served on the faculties of the Law School and the Department of Economics at The University of Chicago and the Department of Economics at the Massachusetts Institute of Technology. I specialize in the economics of industrial organization, which is the study of individual markets and includes the study of antitrust and regulatory issues. I am co-author of Modern Industrial Organization, a leading textbook in the field of industrial organization, and I also have published numerous articles in academic journals and books. In addition, I am Co-Editor of the Journal of Law and Economics, a leading journal that publishes research applying economic analysis to industrial organization and legal matters. I have served as an Associate Editor of the International Journal of Industrial Organization and Regional Science and Urban Studies, and have served on the Editorial Board of Intellectual Property Fraud Reporter.

2. In addition to my academic experience, I am President of Lexecon Inc., an economics consulting firm that specializes in the application of economic analysis to legal and regulatory issues. I have served as an expert witness before various state and federal courts, foreign tribunals and I have provided expert witness testimony before the U. S. Congress and a variety of state and federal regulatory agencies, including the Federal Communications Commission (FCC). I also have served as a consultant to the Department of Justice on the Merger Guidelines of the Department of Justice and Federal Trade Commission, as a general consultant to the Department of Justice and Federal Trade Commission on antitrust matters, and as an advisor to the Bureau of the Census on the collection and interpretation of economic data. I also have provided testimony on telecommunications matters before Congress, the

federal courts, and federal and state regulatory agencies and have published academic articles on telecommunications issues. A copy of my curriculum vitae is attached as Exhibit 1 to this affidavit.

3. I, Hal S. Sider, am a Senior Vice-President of Lexecon Inc. I received a BA in Economics from the University of Illinois in 1976 and a Ph.D. in Economics from the University of Wisconsin (Madison) in 1980. I have been with Lexecon since 1985, having previously worked in several government positions. I specialize in applied microeconomic analysis and have performed a wide variety of economic and econometric studies relating to industrial organization, antitrust and merger analysis. I have published a number of articles in professional economics journals on a variety of topics and have testified as an economic expert on matters relating to industrial organization, antitrust, labor economics and damages. In addition, I have directed several studies of competition in telecommunications industries and have previously testified as an expert on telecommunications matters before the FCC and public utility commissions in various states. A copy of my curriculum vitae is attached as Exhibit 2 to this affidavit.

II. SUMMARY AND OVERVIEW

4. We have been asked by counsel for Verizon and Northpoint to analyze the extent to which NorthPoint's Symmetric Digital Subscriber Line ("SDSL") services compete with T-1 and fractional T-1 services provided by Verizon in the provision of high-speed access to (i) Internet service providers ("ISPs") and (ii) Frame Relay and Asynchronous Transfer Mode ("ATM") networks. We also have been asked to analyze the extent to which NorthPoint's SDSL services compete with Asymmetric Digital Subscriber Line ("ADSL") services provided by Verizon.

5. We conclude that the available evidence reported below shows that NorthPoint's SDSL services do not compete with T-1/ fractional T-1 services or ADSL services provided by

Verizon to any significant extent, and that, therefore, the proposed combination of NorthPoint's and Verizon's DSL businesses does not raise concerns about a significant reduction in competition in the provision of high-speed access services. Our analysis to date indicates the following:

- With respect to the provision of high-speed access to ISPs, we conclude that NorthPoint's SDSL service does not compete to any significant extent with Verizon's T-1 and fractional T-1 services due to significant differences in the quality and price of these services. For example, T-1 and fractional T-1 services include guaranteed bandwidth commitments while SDSL services offered by Northpoint and others include guarantees of only half of the nameplate bandwidth level. As a result of the different infrastructure and quality differences, T-1 and fractional T-1 services sell at a multiple of 3 to 5 times the prices of SDSL services. Consistent with the significant differences in price and quality, different customers typically purchase SDSL and T-1 services with larger firms typically purchasing T-1 services and smaller firms purchasing SDSL. Moreover, available survey data indicate that few SDSL customers previously used T-1 services, with the vast majority previously subscribing to dial-up Internet Service Providers. Furthermore, the rapid deployment of SDSL services in recent years does not appear to have resulted in declines in the aggregate pricing of T-1 and fractional T-1 services, as would be expected if these products competed to a significant extent.
- With respect to the provision of high-speed access to frame relay and ATM networks – networks that are used to provide a wide variety of high-speed data transport services primarily to large- and medium-sized businesses – we also conclude that the available evidence shows that NorthPoint's SDSL service does not compete to any significant extent with Verizon's T-1 and fractional T-1 services. First, NorthPoint does not offer a configuration of its SDSL service that enables it to be used for

access to frame relay and ATM networks. Moreover, even if NorthPoint did offer such a configuration of its SDSL service, it is unlikely that it would compete directly with Verizon's T-1 and fractional T-1 services as a result of differences in price and quality between these services, such as those discussed above.

- We also conclude that the available evidence shows that NorthPoint's SDSL services do not compete to any significant extent with Verizon's ADSL services, again because of important price and quality differences. Unlike NorthPoint's SDSL services, Verizon's ADSL services provide no guarantees of minimum available bandwidth. Instead, Verizon commits only to use its best efforts to provide the "nameplate" bandwidth to subscribers. As these quality differences suggest, SDSL services sell at much higher prices than ADSL services (e.g., three times as high), with SDSL services typically attracting business customers and ADSL services typically attracting residential customers.

III. BACKGROUND

A. NORTHPOINT'S SDSL SERVICE

6. NorthPoint's main product offering is SDSL service. SDSL is a high-speed access service that is provided over a single loop of twisted pair copper wire. NorthPoint offers SDSL service at several different speeds, ranging from 160 thousand bits per second ("Kbps") up to 1.544 million bits per second ("Mbps"). NorthPoint's most popular SDSL offering is at 416 Kbps.

7. NorthPoint provides its SDSL service through a combination of its own facilities and facilities leased from incumbent local exchange carriers. NorthPoint leases unbundled loops from local exchange carriers. NorthPoint then attaches to both ends of a loop its own electronic devices that make SDSL services possible. NorthPoint installs a Digital Subscriber Line Access Multiplexer ("DSLAM") in the central office and an SDSL modem at the customer's

premises. NorthPoint leases transport facilities from a combination of incumbent and competitive local exchange carriers in order to route traffic from its DSLAMs to ISPs.

8. NorthPoint's SDSL services are now used exclusively for Internet access. NorthPoint provides SDSL exclusively on a wholesale basis. Its primary customers are Internet service providers, which resell NorthPoint's service together with their own Internet access service to end-user customers. The primary end users of NorthPoint's high-speed access service are small- and medium-sized businesses, which purchase combined access and Internet services on a retail basis from NorthPoint's ISP partners.

B. VERIZON'S T-1 AND FRACTIONAL T-1 SERVICES

9. T-1 refers to an access service in which two twisted-pair copper wires or fiber facilities are used to provide transmission speeds of 1.544 Mbps. A T-1 may be provided on a "channelized basis" divided into 24 channels of 64 Kbps each, or on a "serial" basis – that is, as an undivided channel. Fractional T-1 service refers to a form of channelized or serial T-1 service in which some increment of 64 Kbps is provided less than the full 1.544 Mbps. Verizon provides T-1 and fractional T-1 services for a wide variety of data applications, including connections to Private Branch Exchanges (PBXs), Centrex service, private-line services, exchange access to long distance carriers, as well as the provision of high-speed access to ISPs and to Frame Relay and ATM networks.

10. Today, Verizon's T-1 and fractional T-1 services are provided using HDSL (high bit rate digital subscriber line) technology or fiber. In one typical configuration, Verizon attaches a channel bank configured for HDSL to two twisted-pair copper loops at the central office. At the customer premises, the two loops are connected to a Channel Service Unit/Digital Services Unit (which performs functions similar to a digital modem), which in turn is connected to a router insofar as the T-1 is used to connect to the customer's local area network ("LAN").

11. T-1 services are purchased by end-users for a wide variety of high-speed data services including private networks, direct access to interexchange carriers, and access to frame relay and ATM networks. Customers that purchase T-1 services for these purposes may also use this service for Internet access. Verizon provides T-1 and fractional T-1 facilities on both a wholesale and retail basis. At the retail level, Verizon typically provides T-1 services in combination with other voice or data services – such as PBXs, Centrex, Internet access, frame relay, or ATM. At the wholesale level, Verizon typically provides T-1 and fractional T-1 services on a stand-alone basis to customers that resell them as part of their service offerings. For example, Verizon provides T-1 and fractional T-1 services to Internet service providers and to telecommunications carriers that provide them as part of their retail Internet service offerings principally to large business customers.¹

C. VERIZON'S ADSL SERVICES

12. ADSL is a high speed access service that is provided over a single loop of twisted pair copper wire. ADSL services are typically “asymmetric” in the sense that they deliver greater “downstream” bandwidth (from the network to the end user) than “upstream” bandwidth (from the end user to the network). The service is provided by attaching an ADSL modem at the customer’s premises to a copper wire connected to a DSLAM located at the central office. From the DSLAM, traffic is directed to an ISP, which provides Internet access. ADSL services are capable of providing service up to about 18,000 feet from a central office.

13. ADSL services are sold by Verizon on a retail basis (with ISP services) and on a wholesale basis to ISPs which then sell Internet access (including resold Verizon ADSL access services) to end users. While ADSL services offered by Verizon are available at various bandwidths, more than 90 percent of subscribers purchase the lowest priced service offering.

¹ In another variant, Internet access can be provided using T-1 or fractional T-1 service that is used to access frame relay networks, which are in turn connected to ISPs that provide Internet access.

For Verizon East, the standard service provides downstream bandwidth of up to 640 Kbps and upstream bandwidth of 90 Kbps; the comparable figures for Verizon West's services are 768 Kbps and 128 Kbps. Consumers, however, are not guaranteed to receive access at these speeds.

IV. NORTHPOINT'S SDSL SERVICES DO NOT COMPETE TO ANY SIGNIFICANT EXTENT WITH VERIZON'S T-1 AND FRACTIONAL T-1 SERVICES IN PROVIDING ACCESS TO INTERNET SERVICE PROVIDERS.

14. Consumers may purchase (or Internet service providers may purchase at wholesale) a wide variety of high-speed access services, including ADSL, SDSL, T-1, fractional T-1, fixed wireless, satellite, and cable modem.² Not all of these various alternatives are, however, necessarily close substitutes for each other. For example, a high-speed access service that may be suitable for serving a small business such as a local hardware store with 10 employees may not be suitable for the needs of serving a medium- or large-sized business such as a law firm with 200 employees. Each different high-speed access service has different technological and economic characteristics that determine the kind of use for which it is most appropriate.

15. As described below, NorthPoint's SDSL services and Verizon's T-1 and fractional T-1 services have very different technological and economic characteristics. As a result of these differences, Internet service providers do not typically purchase these services to serve the same kinds of customers. NorthPoint's SDSL services and Verizon's T-1 and fractional T-1 services cannot, therefore, generally be viewed as good substitutes for each other.

² Excite@Home, for example, provides "broadband services to businesses through its @Work division." Letter from Lewis Rose, Arent Fox (counsel for Excite@Home), to Renee Baruch, Verizon Communications, August 25, 2000.

A. THERE ARE SIGNIFICANT QUALITY DIFFERENCES BETWEEN SDSL AND T-1 SERVICES.

16. T-1 and fractional T-1 services provide a considerably higher quality of service than SDSL services. First, T-1 and fractional T-1 services are designed to provide a more consistent and reliable connection than SDSL service. T-1s and fractional T-1s are typically provided with a guaranteed bandwidth that is the same as the maximum rated speed – for example, 1.544 Mbps for a full T-1. By contrast, SDSL is provided with a “committed information rate” that is only half of the maximum rated speed – for example, 768 Kbps for 1.544 Mbps service. Thus, subscribers may have access to substantially less than the “nameplate” bandwidth at any point in time.

17. Additionally, T-1s are typically provided with far superior service guarantees compared to SDSL service. These differences in turn require technical differences in the services themselves, such as alarms, network monitoring, and other technical capabilities that are not present in the case of SDSL services. As an example of greater assurances of quality provided with T-1 services, Verizon’s T-1 tariffs offer customers a credit for one month of free service if that customer’s service is interrupted for one minute or more. By contrast, NorthPoint’s SDSL tariffs offer customers a credit for one day of free service if that customer’s service is interrupted for between 16 and 24 hours. Verizon’s T-1 tariffs also define service interruptions far more broadly than NorthPoint’s SDSL tariffs, therefore making Verizon liable for repairs and service credits in many instances where NorthPoint would not be. Verizon’s tariffs define a service interruption as a “period during which the error performance is below that specified.” NorthPoint’s tariffs define a service interruption as a “complete loss of data transmission capability.” Finally, Verizon’s mean time to repair a T-1 line in Verizon West territory region is roughly four hours, whereas NorthPoint’s mean time to repair an SDSL line is approximately 24 hours.

18. As the service guarantees suggest, there are substantial differences in the frequency with which problems are reported about T-1 access services and SDSL services. More specifically, NorthPoint's SDSL services appear to be subject to much more frequent service interruptions than Verizon's T-1 services. For example, roughly 4 percent of SDSL services generate network-related "trouble tickets" in a given month. In contrast, less than one-half of one percent of Verizon T-1 lines generate trouble reports in a given month.

19. There also are material differences between the bandwidth capabilities of SDSL and T-1 and fractional T-1 services. T-1 and fractional T-1 services can offer greater bandwidth than SDSL services in many instances. SDSL services normally are provided only to end users that are within 18,000 feet of a central office. Moreover, the maximum bandwidth for SDSL services (1.54 Mbps) has even greater distance limitations and can be provided only to end users within 12,000 feet of a central office. By contrast, full T-1 service provided using HDSL can be provided to end users that are 12,000 feet from a central office without the use of repeaters, and up to 36,000 with two repeaters; T-1 service provided using fiber can extend hundreds of miles.³

B. THERE ARE SIGNIFICANT PRICE DIFFERENCES BETWEEN T-1 AND SDSL SERVICE.

20. As suggested by the differences in the quality of T-1 and SDSL services, T-1 and fractional T-1 services are considerably more expensive than SDSL services for comparable amounts of bandwidth.⁴ As Covad has recently stated: "T1 lines . . . are much more expensive

³ J. Levitt, Waiting For DSL -- Digital Subscriber Line Technology May Be The Best Choice Yet For High-Speed Internet Access, InformationWeek (Oct. 5, 1998) ("Also, unlike DSL lines, which typically have distance limitations of 18,000 feet from the central office, T1 lines can be extended much farther from the central office using repeaters -- about 50 miles in the local loop and much farther for long-haul T1 connections.").

⁴ Internet access provided via T-1 and fractional T-1 are also considerably more expensive than access provided over fixed wireless and cable modem, services that do compete with SDSL. Prices for fixed wireless service range from \$150 per month (for

than DSL, and prohibitively expensive for residential and even many business users.”⁵

NorthPoint sells 1.544 Kbps SDSL service to ISPs for approximately \$173 per month (although this service accounts for only 3 percent of NorthPoint’s lines in service). By contrast, Verizon T-1 services (for the same bandwidth) typically sells for roughly three to four times this amount. NorthPoint provides 416 Kbps SDSL service (its predominant offering) to ISPs for \$73 per month. (See Table 1.) By contrast, retail fractional T-1 services for Verizon West (which on average provide bandwidth of 230 Kbps) sells for an average price of roughly \$300 per month.⁶

21. The list prices of retail Internet services (including both high-speed access and ISP services) likewise indicate that Internet access provided with T-1 and fractional T-1 services are considerably more expensive than Internet access provided with SDSL services. For example, AT&T sells 768 Kbps Internet access using fractional T-1 access for \$1,630 per month.⁷ UUNet offers 768 Kbps Internet access (using fractional T-1 and frame relay) for \$1,334 per month. By contrast, Mindspring offers Internet access services using SDSL access for \$289 per month. (See Table 1.)

C. SDSL AND T-1 SERVICES ARE USED TO SERVE DIFFERENT KINDS OF CUSTOMERS

22. As a result of the differences in price and quality between SDSL services and T-1 and fractional T-1 services, these services generally are not substitutes for each other and are

(...continued)

symmetric 144Kbps) up to \$625 per month (for symmetric 1.54 Mbps). See Tab 20 to Verizon and Northpoint’s response to prior questions raised by the Department of Justice. Prices for Excite@Home’s @Work business service range from \$304 per month (for symmetric 784 Kbps) up to \$486 (for symmetric 1.544 Mbps).

⁵ Second Am. Compl. ¶159, Covad Communications Co., et al. v. Bell Atlantic Corp., et al., No. 1:99CV01046 (GK) (D.D.C. filed Aug. 10, 2000).

⁶ Based on Verizon West data for all fractional T1 services. (Verizon West does not calculate average revenue for specific bandwidths.) The average bandwidth for fractional T1 services sold by Verizon West is approximately 230 Kbps.

⁷ The prices quoted in the paragraph include the cost of installation and equipment and

typically not used to serve the same kinds of customers. Thus, these services generally are not substitutes for each other. ISPs typically purchase SDSL services to provide a bundle of high-speed local and Internet access service to small and medium-sized businesses. IDC estimates that, in 1999, only 0.2 percent of business customers with fewer than 99 employees maintained T-1 Internet connections and that only 0.1 percent maintained fractional T-1 connections. In contrast, 50 percent of business customers with more than 500 employees had T-1 connections and 12 percent had fractional T-1 connections.⁸

23. If SDSL and T-1 were substitutes, it would be expected that, when SDSL was introduced, a large number of customers would have abandoned their T-1 service in favor of lower priced SDSL service. The available data, however, indicate that this is not the case. For example, survey data from NorthPoint reveal that the vast majority of its subscribers formerly used dial-up Internet access and that a very small number previously used T-1, fractional T-1, or frame relay services for Internet access. As Table 2 indicates, more than 85 percent of NorthPoint customers previously used dial-up connections; only 3 percent previously used T-1 or fractional T-1 services. This suggests that most T-1 and fractional T-1 customers place a high value on the quality of T-1 and fractional T-1 Internet access services they receive, and are therefore willing to pay higher prices for these services.

(...continued)
are based on two year customer commitments.

⁸ IDC, Basic Internet Access Market by Business Segment, 1998-2003 (1999), pp. 8, 12.

D. T1 AND FRACTIONAL T1 PRICES HAVE NOT FALLEN WITH THE DEPLOYMENT OF SDSL SERVICES

24. If SDSL services competed with T-1 and fractional T-1 services to a significant extent, then the prices for T-1 and fractional T-1 services would have been expected to fall as SDSL services expanded in an area as T-1 providers would have been forced to lower their prices in order to compete against lower-priced SDSL substitutes. Despite the rapid deployment of SDSL in the past two years,⁹ available data on the average prices received by both Verizon East and Verizon West indicate that the prices for T-1 and fractional T-1 services have not fallen. The available data show that in areas served by Verizon West (the former GTE territories) the average revenue per retail T-1 line (and fractional T-1 line) was virtually unchanged between January 1998 and August 2000.¹⁰ (See Figure 1.) Similarly, the average revenue per unit for T-1 and fractional T-1 customers in Verizon East territories has not declined in recent years. (See Figure 2.)

25. In sum, available data provide no support for the claim that SDSL services compete to a significant extent with T-1 or fractional T-1 services in the provision of access to Internet service providers. This result is not surprising given the differences in the nature and quality of SDSL and T-1/fractional T-1 services and the fact that T-1 services are used in a variety telecommunications services other than Internet access.

26. Nonetheless, even apart from these facts, the proposed transaction would not result in a material reduction in competition. This is because there are a significant number of rivals of NorthPoint and Verizon as providers of both SDSL and T-1 services. Rival producers of SDSL services include Covad, Rhythms and a number of smaller DLECs, such as DSLNet,

⁹ The number of Northpoint equipped COs has increased from 104 in 1998 Q4 to 1,505 in 2000 Q2.

¹⁰ Average retail revenue per unit reflects the average revenue per T1 or fractional T1 line, including subscriber access line (SAL) and transport charges.

HarvardNet, and Jato.¹¹ Review of company websites indicates that there are a substantial number of CLECs that provide T-1 and fractional T-1 services. In total, more than 90 percent of the COs served by both Verizon and NorthPoint are also served by an additional three or more additional DLECs. Furthermore, more than 95 percent of COs served by both Verizon and NorthPoint are served by 4 or more additional CLECs or DLECs. It is highly unlikely that the proposed transaction would result in higher prices of SDSL or T-1/fractional T-1 services under these conditions.

V. NORTHPOINT'S SDSL SERVICES DO NOT COMPETE TO ANY SIGNIFICANT EXTENT WITH VERIZON'S T-1 AND FRACTIONAL T-1 SERVICES IN PROVIDING ACCESS TO FRAME RELAY NETWORKS AND ATM NETWORKS.

27. Frame Relay networks and ATM networks are used to provide a wide variety of data transport services to businesses, including file transfer, database access, e-mail, video transmission, configuration of a wide area network (WAN) by interconnecting local area networks (LANs), and Internet access service. Frame Relay and ATM services are provided through permanent virtual circuits ("PVCs"), which are connections between two end points at a guaranteed bandwidth that is maintained through software rather than by providing dedicated physical facilities.

28. Frame relay networks and ATM networks rely on different kinds of packet-switching protocols, and generally support very different bandwidths. Frame relay networks typically support relatively low bandwidths, and most customers use these networks for applications that require between 56 Kbps and 256 Kbps, although frame relay networks typically offer bandwidth up to 1.5 Mbps. ATM networks are used primarily for applications that require very high bandwidths. Most customers use ATM networks for applications that require 1.5 Mbps or more, and many ATM networks are capable of bandwidths greater than 45 Mbps.

11. Hazlett Declaration, pp. 10-18.

29. There are numerous carriers that operate frame relay and ATM networks, including incumbent local exchange carriers, competitive local exchange carriers, and interexchange carriers. The largest providers of frame relay and ATM services by far are AT&T, WorldCom, and Sprint, which together account for roughly 77 percent of frame relay revenue.¹² Verizon operates frame relay and ATM networks, but it is prohibited by Section 271 of the Communications Act from using these networks for anything but intraLATA services until it receives interLATA authorization from the FCC. See 47 U.S.C. § 271(a). As a result of this regulatory restriction, Verizon remains a very small player in the provision of frame relay and ATM services. Many of the applications for these services require interLATA transport, and customers will generally prefer to obtain their intraLATA and interLATA frame relay and ATM services from a single source.

30. Connections between end users and frame relay networks are often made using T-1 and fractional T-1 facilities. Connections to ATM networks are made using T-1 facilities and even higher bandwidth facilities such as T-3 (28 times the bandwidth of a T-1), fractional T-3 (some subset of a T-3), OC-3 (3 times the bandwidth of a T-3), or higher. As a purely technical matter, it would be possible to use SDSL instead of T-1 and fractional T-1 services to provide access to frame relay and ATM networks.

31. But NorthPoint does not offer an SDSL product that can be used in this way. NorthPoint's SDSL services are used exclusively to provide Internet access and are not now capable of providing access to frame relay and ATM networks. While NorthPoint has made efforts to modify its SDSL service to provide access to frame relay networks, these efforts have not been successful. Global Crossing and other potential customers have had discussions with NorthPoint regarding the development of such services. The development was not successful

¹² IDC, U.S. Frame Relay Services: Market Share and Assessment, 1999-2004, p. 3.

and the project is not currently being pursued as the company focuses its resources on rolling out SDSL Internet access services and improving service reliability.

VI. NORTHPOINT'S SDSL SERVICES DO NOT COMPETE TO ANY SIGNIFICANT EXTENT WITH VERIZON'S ADSL SERVICES.

32. ADSL and SDSL services have very different technological and economic characteristics. As a result, these services differ significantly with respect to service quality and reliability and sell at very different prices. They also typically sell to different groups of customers, with the vast majority of SDSL sales made to business customers and the vast majority of ADSL sales made to residential customers. These factors suggest that NorthPoint's SDSL service does not compete to a significant extent with Verizon's ADSL services and, as a result, the proposed transaction is unlikely adversely to affect consumers of these services.

A. THERE ARE SIGNIFICANT TECHNICAL AND QUALITY DIFFERENCES BETWEEN ADSL AND SDSL SERVICES.

33. SDSL services typically offer greater service quality than ADSL services, including higher bandwidth and greater service reliability. As discussed above, NorthPoint's most popular SDSL service provides "nameplate" bandwidth of 416 Mbps both to and from an end user. This includes a committed bandwidth of 50 percent of this nameplate. Compared to NorthPoint's SDSL, Verizon's ADSL services have higher nameplate bandwidth for "downstream" services with lower nameplate "upstream" bandwidth. Verizon does not guarantee a committed information rate for its ADSL but instead commits only to provide its best efforts in delivering the stated nameplate capacity.

34. As their names imply, a key distinction between SDSL and ADSL is the fact that SDSL typically is used to offer high capacity services in two directions, while ADSL is typically used to provide high capacity downloads but not uploads. Thus, there are several business

applications that require symmetric communications, such as videoconferencing, two-way file transfer, and video transmission, that are poorly suited to ADSL services.¹³

B. THERE ARE SUBSTANTIAL DIFFERENCES IN SDSL AND ADSL PRICES AND CUSTOMERS THAT PURCHASE EACH SERVICE

35. As suggested by the differences in the nature and quality of ADSL and SDSL services. SDSL services typically sell at substantially higher prices than ADSL services. As shown in Table 3, the most popular ADSL services offered by both Verizon East and Verizon West sell for roughly \$40 per month. This service includes both ISP access service as well as ADSL access services. In contrast, 416 Kbps SDSL services (including both access and ISP services) are typically sold at retail for roughly \$150 to \$200 per month. SDSL services at 768 Kbps typically sell at retail for roughly \$250 to \$300 per month.

36. Given these differences in the price and quality of ADSL and SDSL services, it is not surprising that each typically attracts distinct groups of customers. For example, roughly three-quarters of NorthPoint customers are businesses while roughly 80 percent of ADSL customers are residential consumers.¹⁴

37. Even business customers of ADSL services typically subscribe to the lowest-priced ADSL offerings. For example, more than two-thirds of business customers that purchase ADSL services from Verizon West purchase the \$40 per month offering. This suggests that, like most residential customers, these business customers are unlikely to regard higher quality and more expensive SDSL services as a substitute for ADSL services.

38. Again, however, even apart from these facts, the proposed transaction would not result in a material reduction in competition. As discussed above, rivals to NorthPoint in the

¹³ R. Adams et. al., CIBC World Markets Corp., Investex Report No. 2067977, Metalink Ltd., Company report, Feb. 4, 2000, p. 3.

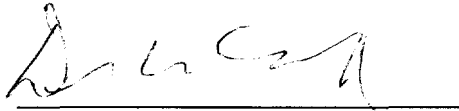
¹⁴ NorthPoint data from Verizon/NorthPoint response to DOJ Questions, Question 2.4; ADSL data from FCC, Deployment of Advanced Telecommunications Capability: Second Report, August 2000, p. 46.

provision of SDSL services include Covad and Rhythms as well as a number of additional DLECs and more traditional CLECs.¹⁵ As noted above, 90 percent of the COs served by both Verizon and NorthPoint are also served by an additional 3 (or more) DLECs. Furthermore, ADSL services provided by Verizon face direct competition from Internet access services provided by cable facilities. For example, the FCC reported that as of the end of 1999, more 1.4 million subscribers obtain Internet service via cable providers while there were only 370,000 ADSL subscribers. In addition, several other DLECs offer services to residential customers as well.¹⁶ It is highly unlikely that the proposed transaction would result in higher prices of either SDSL or ADSL services under these conditions.

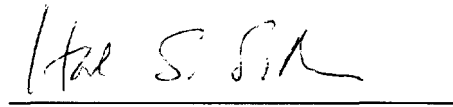
¹⁵ Hazlett Declaration, pp. 10-18.

¹⁶ Hazlett Reply Declaration, ¶16.

We declare, under penalty of perjury, that the foregoing is true and correct.

A handwritten signature in dark ink, appearing to read "Dennis W. Carlton", written over a horizontal line.

Dennis W. Carlton

A handwritten signature in dark ink, appearing to read "Hal S. Sider", written over a horizontal line.

Hal S. Sider

Executed on: October 17, 2000

Table 1

Representative Retail List Pricing of Internet Access from Fractional T-1 and DSL Providers

Type of Access	Speed	Firm	NRC	Monthly Charge	Total 2 Year Cost	Average Monthly Cost
T-1	1.544M	AT&T Managed Internet Service	\$ -	\$ 1,870.00	\$ 44,880.00	\$ 1,870.00
	1.544M	PSINet Dedicated Access	\$ 1,995.00	\$ 1,903.00	\$ 47,667.00	\$ 1,986.13
Fractional T-1	512K	AT&T Managed Internet Service	\$ -	\$ 1,560.00	\$ 37,440.00	\$ 1,560.00
	768K	AT&T Managed Internet Service	\$ -	\$ 1,630.00	\$ 39,120.00	\$ 1,630.00
	512K	PSINet Dedicated Access Fractional T-1	\$ 1,995.00	\$ 1,703.00	\$ 42,867.00	\$ 1,786.13
	512K	Concentric FlexChannel T-1	\$ -	\$ 1,250.00	\$ 30,000.00	\$ 1,250.00
	768K	Concentric FlexChannel T-1	\$ -	\$ 1,345.00	\$ 32,280.00	\$ 1,345.00
ATM / Fractional T-1	768K	Bell Atlantic South	\$ 1,150.00	\$ 1,310.00	\$ 32,590.00	\$ 1,357.92
	768K	Bell Atlantic North	\$ 1,150.00	\$ 1,473.00	\$ 36,502.00	\$ 1,520.92
Frame Relay / Fractional T-1	512K	PSINet Frame Internet Access ^{1/}	\$ -	\$ 1,203.00	\$ 28,872.00	\$ 1,203.00
	768K	UUNet Frame Relay Internet Access ^{1/}	\$ 3,781.00	\$ 1,176.00	\$ 32,005.00	\$ 1,333.54
	768K	Bell Atlantic South ^{1/}	\$ 1,500.00	\$ 1,407.00	\$ 35,268.00	\$ 1,469.50
SDSL ^{2/}	768K	Concentric Network SDSL	\$ -	\$ 299.00	\$ 7,176.00	\$ 299.00
	768K	Mindspring SDSL	\$ 499.00	\$ 289.00	\$ 7,435.00	\$ 309.79
	768K	Onvoy SDSL	\$ 900.00	\$ 299.00	\$ 8,076.00	\$ 336.50

Sources: AT&T Web site (www.ipservices.att.com/ipaccess/mis/table1.html)
 PSINet (email communication from Ashley Williams)
 Concentric Web site (www.concentric.com/offer/best1/order.html)
 UUNet (telephone conversation with Larry Donnelly)
 Verizon/NorthPoint Submission to DOJ (citing www.dslmarketplace.com)
 Verizon.

Notes: PSINet and UUNet quoted prices include a UUNet estimated \$408 monthly charge for local loop access.
 Bell Atlantic prices to end-users based on a two year commitment

1/ Committed Information Rate for frame relay PVC is 50% of bandwidth.

2/ Committed Information Rate for SDSL services is 50% of bandwidth.

Table 2

**Previous Internet Access Method Used by
Current NorthPoint Customers**

Prior Access Type	Percent of Customers
Dial-Up	85%
ISDN	12%
33.3 / 56.6 Kbps Modem	67%
9.6 / 14.4 / 28.8 Kbps Modem	6%
Other Dedicated	9%
Cable	4%
64 Kbps DDS	2%
Other High Speed	3%
T-1 / Fractional T-1	3%
Other / No Previous Access	3%

Source: NorthPoint Survey

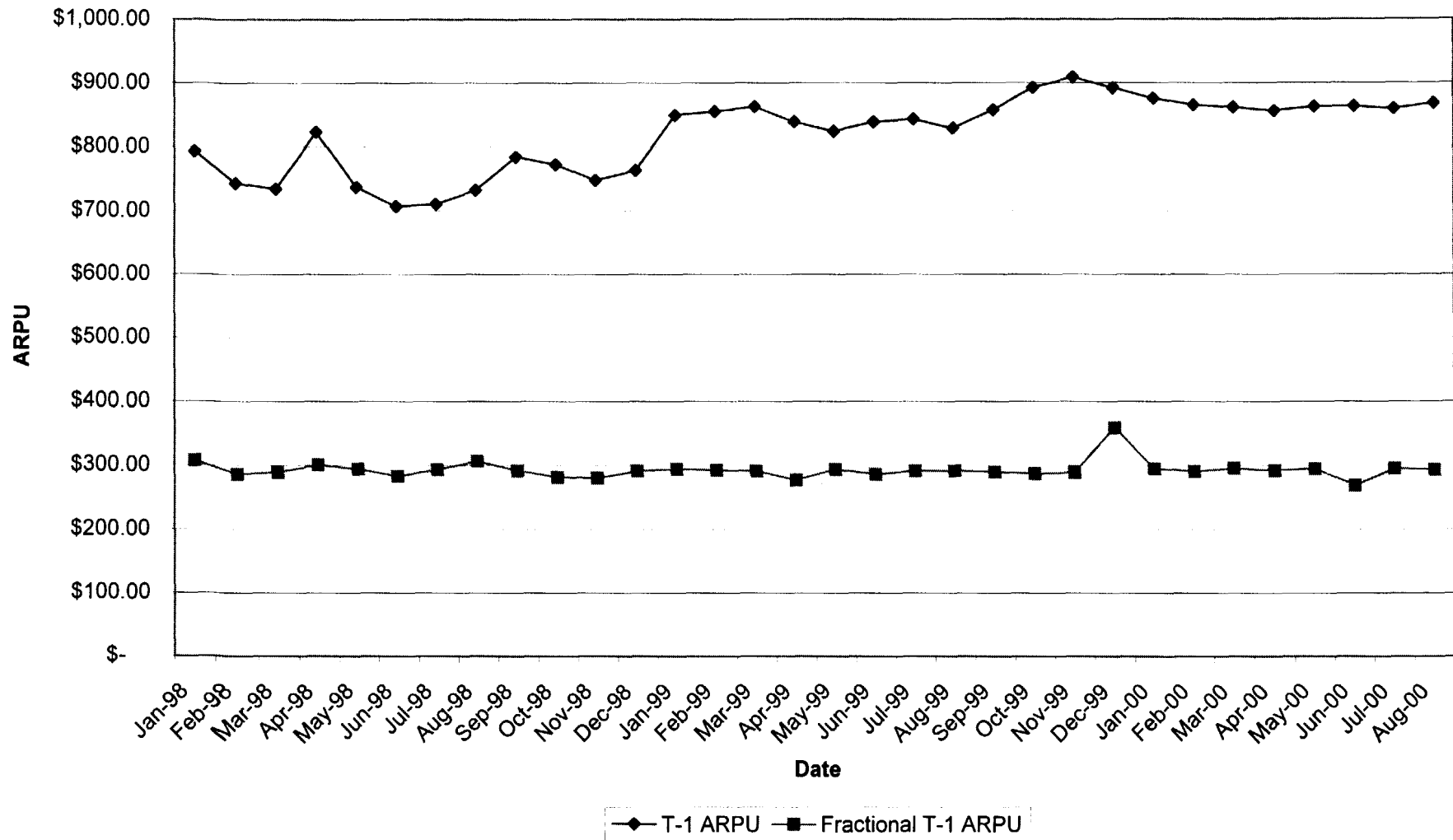
Table 3
Representative SDSL/ADSL Pricing

	Bandwidth¹	NRC	Monthly Recurring Charge
ADSL			
Verizon West			
Bronze Plus	768 Kbps/128 Kbps	\$ 50.00	\$ 39.95
Silver	384 Kbps/384 Kbps	\$ 50.00	\$ 92.95
Verizon East			
Infospeed	640 Kbps/90 Kbps	\$ 120.00	\$ 39.95
SDSL			
Concentric			
Business	416 Kbps/416 Kbps	\$ -	\$ 199.00
Business	768 Kbps/768Kbps	\$ -	\$ 299.00
CTSNET			
Business DSL	416 Kbps/416 Kbps	\$ 199.00	\$ 160.00
Business DSL	768 Kbps/768Kbps	\$ 199.00	\$ 254.00

1. ADSL bandwidth is best efforts; SDSL is half of nameplate.

Figure 1

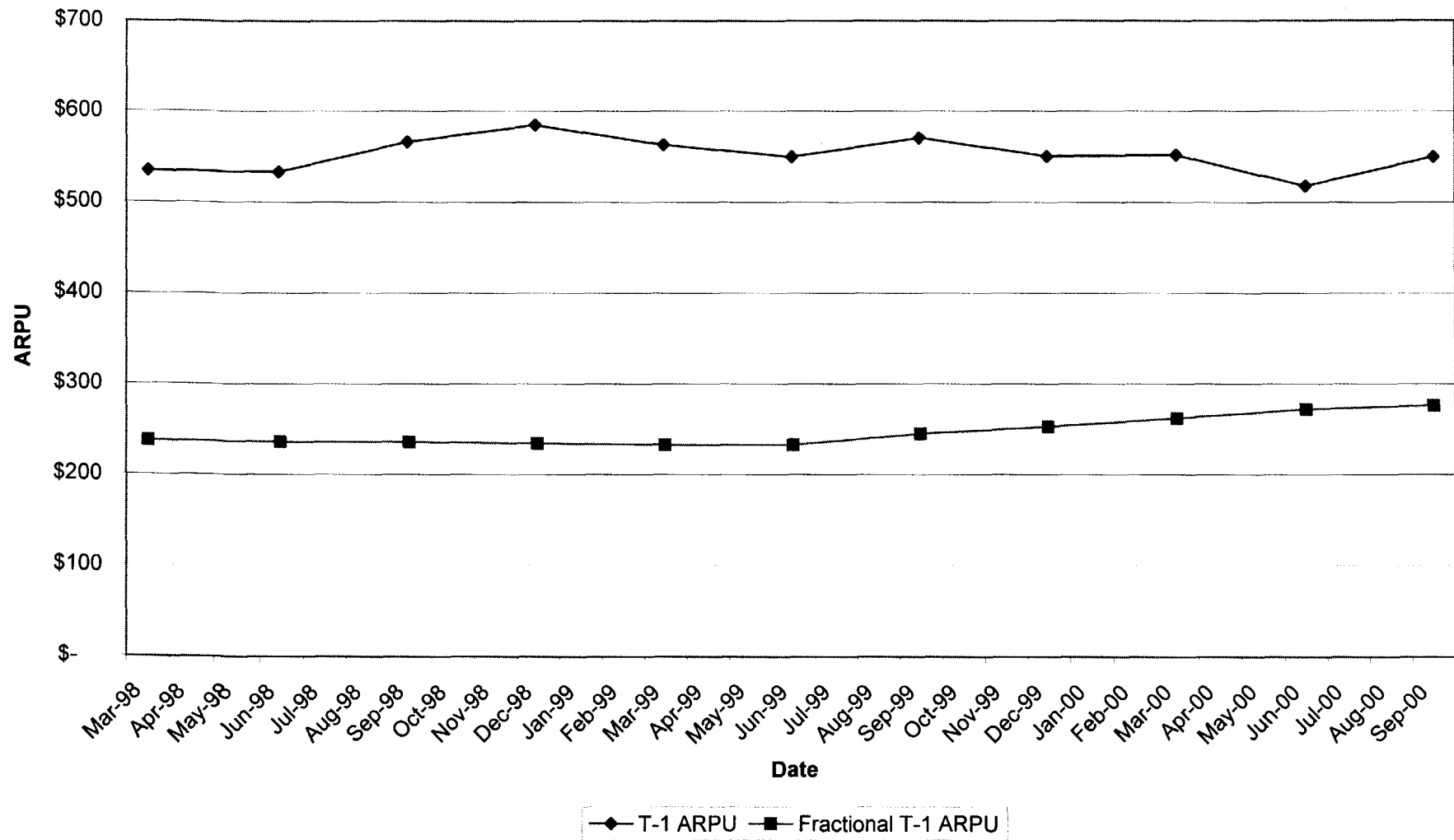
Average Revenue for Retail T-1 and Fractional T-1 Lines - Verizon West



Note: Assumes two special access lines per completed line.

Figure 2

Average Revenue Per T-1 and Fractional T-1 Lines - Verizon East



Note: Assumes two special access lines per completed line.

Exhibit 1